



COUNTING the plants in a square meter of shoreline helps the students understand the amazing number of organisms that populate a salt marsh. Tallying this sample are Cedric Daniels (left) and Payton Leggett.



EXAMINING the contents of a dip net that Wildlife Officer Fred Taylor (left) has just used to scoop up specimens, Brandon Bartley reaches for a small fish as Terry Butler looks on.

Using The Coast As A Classroom

pass acres of salt marsh every time we drive over a bridge or motor up our rivers and waterways. We walk hurriedly past all manner of spindly little bushes and windblown grasses in our rush to find the perfect spot for a beach towel.

But how often do we actually SEE what's going on in our coastal environment?

Not often enough for Ellen Milligan and Jill Hughes, two teachers of science and math at Waccamaw School. They wanted their eighth-grade students to take a closer look at the diverse coastal ecosystems located just a few miles down the road.

So they developed an ambitious curriculum of preliminary class work, field observations, specimen gathering, data collection and follow-up analysis to organize an expedition that would be more than just a fun day at the beach.

They applied for and received a grant through the local school system that would pay for substitute teachers to cover their absence and a salt-water aquarium to display some of their student's finds. Then they piled into a bus and headed for Ocean Isle Beach.

"A lot of these kids had never done anything at

the beach except swim in the ocean and play video games at the pavilion," Milligan said.

Last month, in the first of two field trips, the students concentrated on the ocean beach. They located and cataloged the unique plants that survive in the harsh sand dune environment. They identified sea oats, salt meadow cordgrass, wax myrtle, dune primrose, sea rocket, pennywort and beach elder. They took water and soil samples, drew diagrams of observed organisms and collected shells, bones, egg casings and other items.

Last week they embarked again, this time to a salt marsh along the Intracoastal Waterway. With the help of N.C. Wildlife Officer Fred Taylor, the students turned over rocks, sifted through sand and tossed nets into tidal pools to uncover and capture live specimens.

Among their finds were shrimp, worms, clams, blue crabs, fiddler crabs, hermit crabs, rock crabs, periwinkles, jellyfish, a sea cucumber and juvenile toad fish, spot and bluefish.

To estimate how many organisms live in the marsh ecosystem, groups of students placed hula hoops over randomly selected areas and counted the number of plants growing in each square meter. Then they established an average number for the recorded counts and used it to extrapolate the

population of larger areas. The students estimated that more than 2,000 plants could be found in 12 square meters of marsh.

Back in the classroom, the students transferred their living specimens to the aquarium, which has been set up in the library for the entire school to enjoy. Other finds were preserved in alcohol for later study. Collected data was used to compute an estimated population study of the observed area. Each student wrote a report on what they had learned, discussing the interrelated food chains within the coastal ecosystem and importance of protecting it.

"It was a beautiful teaching tool for integrating several study areas," Milligan said.

In addition to the obvious scientific value, the program also helped the students apply their mathematics knowledge as they computed their data, she said. They used reading skills in their preliminary research, communications techniques in reporting on their findings, computer training in preparing the reports and social studies in discussing the economic and political pressures on the coastal environment.

"It was very worthwhile," said Hughes. "I hope we can do it every year."

Text and
photos
by
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CRUISING to another spot, Chris Wright and Tomeka Walker (in photo at right) learn that the next ecosystem is often as close as the next bend in the waterway.



SPOTTING a new find, Anthony Curl directs his team's attention to another crab species that will be added to their specimen inventory. With him are Melissa Daniels (left) and Shaun Milliken.



CASTING a net into a tidal pool, Lamar Jones attempts to capture a few shrimp for the school aquarium.



WILDLIFE OFFICER Fred Taylor enjoys a laugh with Assistant Principal Terry Chestnut (left) over a jellyfish found by one of the students. Also pictured are Kelly Tripp and Chris Wright.